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Tenn. engineer working on design for Kanawha 'cracker' plant

By Paul J. Nyden

CHARLESTON, W.Va. -- A chemical engineer from Tennessee is working with colleagues to design a proposed "cracker" plant along the Kanawha River near Montgomery.

"With 46 chemical engineers, we are one of the larger independent engineering companies around," said Andy Felker, a chemical engineer at Process Engineering Associates in Oak Ridge, Tenn.

Richard Neely, a Charleston lawyer and former West Virginia Supreme Court justice, recently announced plans to build the local cracker plant to process natural gas.

Invictus LLC, Neely's new company, also could produce a variety of other products such as diesel fuel, gasoline, naphtha and ethylene -- a major product used by the plastics industry.

"We make sure that the plants and processes are constructed and managed properly to follow [federal Occupational Health and Safety Administration] rules," Felker told the Sunday Gazette-Mail.

"It will depend on what configuration they finally decide to use, but most plants take between two and five years to create," he said, noting that Invictus already has started to get the permits it would need for a cracker plant.

Getting all the needed permits from the state Department of Environmental Protection could take up to two years, Neely predicted.

"They are looking at the options to see exactly what they can make from the well gas," Felker said. "Once they have identified the most economical procedures, we can get into the actual process of designing the plant."

Companies drilling for natural gas in Marcellus Shale and Utica Shale deposits in Northern West Virginia and Eastern Ohio, Neely said, would send that gas down to Kanawha County by pipeline.

"Overall, this has a lot of potential," Felker said. "We are really excited to be involved with Invictus."

Neely also is working to raise money to finance the plant. He estimated it will cost $1.5 billion to build a plant producing high-quality products for the chemical industry and $3 billion for a plant producing gasoline and diesel fuel from natural gas.

Neely said Friday that he had received "enthusiastic support" from Steven Hedrick, vice president of Bayer CropScience in Institute.

"Steve is a local hero, who is really concerned about the fate of the [Kanawha] Valley," Neely said. "He is not just somebody who has been brought in here for a three-year tour and will be transferred to Scotland for the next three years.

"The existence of a cracker plant would encourage companies like Bayer to revitalize their chemical plants to make other products," Neely said.

He said Hedrick told him the Kanawha Valley's chemical industry "would be very interested in taking a substantial amount of the stuff that we could make, because transportation costs would be so much lower."

Neely said he believes declining coal production makes it necessary to get more fuels from other

sources, especially natural gas, to generate electric power.

On Friday, he cited a report in The Wall Street Journal that said "only 44 percent of all U.S. electrical energy is generated by coal today." In 2003, coal generated 51 percent of the nation's electric power.

A typical cracking plant, Neely said, will refine natural gas from Marcellus Shale reserves so it can be used in power plants, as well as generating other chemical products.

In another cracker-related development, Aither Chemicals, based in South Charleston, announced Friday that it has received a $200,000 investment from the Fairmont-based INNOVA Commercialization Group to continue research into cracker technology.

Aither has focused on converting ethane, a component of natural gas, into ethylene, a raw material used in plastics and other products.

Other groups funding Aither include the West Virginia Jobs Investment Trust, TechConnectWV and the Mid-Atlantic Technology, Research and Innovation Center.

Leonard Dolhert, Aither's CEO, said in a news release, "We continue to take steps toward building a next-generation ethane cracker in West Virginia. Cracking was originally developed in West Virginia.

"This will allow us to maximize the potential of Marcellus Shale without shipping our natural resources out of the state," Dolhert said.

Neely said, "If these guys have a good technology, I want to put them in contact with my engineers in Tennessee."

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